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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,531	01/21/2004	Hiroaki Mochizuki	118255	1091
25944	7590	04/05/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			DUONG, THOI V	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,531

Applicant(s)

MOCHIZUKI, HIROAKI

Examiner

Thoi V. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 ~~is/are~~ pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-13 ~~is/are~~ rejected.
- 7) ☒ Claim(s) 8 and 9 ~~is/are~~ objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01/06/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the Amendment filed January 06, 2006.

Accordingly, claims 1, 4 and 5 were amended. Currently, claims 1-13 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 10, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Katsura (USPN 6,842,211 B2).

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Re claim 1, as shown in Figs. 1A and 2B, Katsura discloses an electro-optical device, comprising:

a substrate 101,

data lines (col. 6, lines 54-65) ;

scanning lines extending in a direction crossing the data lines (col. 6, lines 54-65);

switching elements TFT to which a scanning signal is supplied through the scanning lines (col. 6, lines 46-51);

pixel electrodes 107 to which an image signal is supplied through the data lines and the switching elements TFT (col. 7, lines 7-10); and

an alignment film 110 formed on the pixel electrodes (col. 8, line 63 through col. 9, line 15);

the substrate 101 having an image display area 103 defined as an area to form the pixel electrodes 107 and the switching elements TFT (col. 6, lines 46-51), and a peripheral area defining the periphery of the image display area, the alignment film 110 being formed in the peripheral area and convex portions 104a being formed in the alignment film 110 at least at a part of the peripheral area and extending in a direction substantially perpendicular to a rubbing direction 516 of the alignment film 110 as shown in Fig. 2B.

Re claim 10, as shown in Fig. 2B, the convex portions 104a are formed along the peripheral portion of the image display area 103 opposite to the direction of a rubbing process performed on the alignment film 110.

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Re claim 11, as shown in Fig. 2B, the substrate 101 has a rectangular outer configuration in plan view, and the image display area has a shape similar to the outer configuration of the substrate 101, and the convex portions 104a are formed along one side of the image display area 103.

Re claim 12, an electronic apparatus shown in Figs. 9-12 comprises the electro-optical device described above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7 and 10-13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murade et al. (Murade, USPN 6,433,841 B1) in view of Matsuoka et al. (Matsuoka, USPN 5,953,094).

Re claim 1, as shown in Figs. 12, 14 and 16, Murade discloses an electro-optical device, comprising:

a substrate 10,

data lines 6a;

scanning lines 3a extending in a direction crossing the data lines;

switching elements TFT to which a scanning signal is supplied through the scanning lines (col. 28, line 66 through col. 29, line 3);

pixel electrodes 9a to which an image signal is supplied through the data lines 6a and the switching elements TFT (col. 28, lines 57-61); and

an alignment film 19 formed on the pixel electrodes 9a (col. 8, lines 63-65);

the substrate 10 having an image display area defined as an area to form the pixel electrodes 9a and the switching elements TFT (Fig. 12), and a peripheral area defining the periphery of the image display area.

Fig. 38 of Murade shows that rubbing direction of the alignment film is perpendicular to the scanning lines 3a.

As shown in Fig. 16, Murade discloses that the alignment film 19 is formed in the image display area. However, Murade does not disclose the alignment film formed in the peripheral area and convex portions formed in the alignment film at least at a part of the peripheral area and extending in a direction substantially perpendicular to a rubbing direction of the alignment film.

As shown in Figs. 1 and 5, Matsuoka discloses an electro-optical device comprising an alignment layer 16 formed in the image display area and the peripheral area, and convex portions 14b formed in the alignment film 16 at least at a part of on a seal forming area of the substrate 11 below the sealing material 19 (col. 3, line 64 through col. 4, line 11).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the electro-optical device of Murade with the teaching of Matsuoka by forming convex portions in the alignment film at least at a part

of the peripheral area so as to prevent stripping or corrosion of a wiring layer formed on a peripheral portion of an insulating substrate (col. 1, lines 3-7).

Since the rubbing direction of Murade is perpendicular to the scanning lines, it is obvious that the extension of the convex portions in the direction of the scanning lines is substantially perpendicular to the rubbing direction of the alignment film.

Re claim 2, as shown in Fig. 12, the electro-optical device of Murade further comprises a driving circuit 104 on the substrate 10. Since the convex portions are formed below the sealing material, it is obvious that the convex portions are provided in an area between the image display area and the driving circuit.

Re claim 3, as shown in Figs. 5 and 6, Murade discloses a dummy pixel forming area formed in a light shielding film 53 area outside the image display area (col.. 21, lines 15-25). Accordingly, the convex portions are formed outside the dummy pixel forming area since they are formed below the sealing material.

Re claim 4, as shown in Fig. 5, Matsuoda discloses projected portions 14 (wiring layer) caused by the height of at least one of the data lines and the scanning lines being formed in the alignment film 16 at a position directly adjacent to the display area (inside the sealing material 19), and the height of the convex portions 14b being equal to the height of the projected portions 14.

Re claim 5, as shown in Fig. 5, Matsuoda discloses projected portions 14 (wiring layer) caused by the height of at least one of the data lines and the scanning lines being formed in the alignment film 16 at a position directly adjacent to the display area (inside the sealing material 19), and the convex portions 14b being formed along a direction in

which the scanning lines or the data lines extend since the convex portions are formed along the sealing material 19 (col.1. lines 53-56 and col. 3, lines 64-67).

Re claim 6, since the convex portions 14b of Matsuoka are formed along the sealing material 19, the convex portions are parallel to the direction in which the scanning lines or the data lines extend (col. 3, lines 64-67).

Re claim 7, since the convex portions 14b of Matsuoka are formed along the sealing material 19, the convex portions including a plurality of linear convex portions shown in Fig. 5 are formed along the direction in which the scanning lines or the data lines extend (col. 3, lines 64-67).

Re claim 10, since the convex portions of Matsuoka in Fig. 5 are formed along the sealing material 19 (col. 3, lines 64-67), the convex portions are also formed along the peripheral portion of the image display area opposite to the direction of a rubbing process performed on the alignment film of Murade shown in Fig. 38.

Re claim 11, as shown in Fig. 12, Murade discloses that the substrate 10 has a rectangular outer configuration in plan view, and the image display area has a shape similar to the outer configuration of the substrate 10. And Matsuoda discloses that the convex portions 14b are formed along the seal forming area (comprising four adjacent sides) below the sealing material 19 (col. 3, lines 64-67).

Re claim 12, since the convex portions 14b of Matsuoka are wiring layers, the convex portions 14b are caused by the height of a pattern formed of the same film as the data lines or the scanning lines (col. 1, lines 53-56 and col. 4, lines 12-14).

Finally, re claim 13, as shown in Figs. 78-80, Murade discloses an electronic apparatus comprising the electro-optical device described above.

Allowable Subject Matter

7. Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: none of the prior art of record fairly suggests or shows all of the limitations as claimed.

Specifically, none of the prior art of record discloses, in combination with other limitations as claimed, an electro-optical device comprising projected portions caused by the height of at least one of the data lines and the scanning lines being formed in the alignment film at a position directly adjacent to the display area, and the convex portions being formed along a direction in which the scanning lines or the data lines extend,

wherein, re claim 8, the pitch between the linear convex portions being equal to the pitch between the projected portions; or

wherein, re claim 9, the pitch between the linear convex portions being gradually increased or decreased with increasing distance from the image display area, from a place close to the image display area to a place apart from the image display area.

The most relevant reference, USPN 5,953,094 to Matsuoka et al. (Matsuoka), fails to disclose or suggest the pitch between the linear convex portions being equal to the pitch between the projected portions as recited in claim 8 or the pitch between the linear convex portions being gradually increased or decreased with increasing distance

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from the image display area, from a place close to the image display area to a place apart from the image display area as recited in claim 9. As shown in Fig. 5, Matsuoka's reference only discloses an electro-optical device comprising projected portions 14 caused by the height of at least one of the data lines and the scanning lines being formed in the alignment film 16 at a position directly adjacent to the display area, and the convex portions 14 b being formed along a direction in which the scanning lines or the data lines extend. Matsuoka is silent about the pitches of the projected portions and the convex portions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (571) 272-2293.

Thoi Duong



03/23/2006



DUNG T. NGUYEN
PRIMARY EXAMINER